NOV 19 1988

FLOOD INSURANCE STUDY

LAWRENCE COUNTY, TENNESSEE AND INCORPORATED AREAS

COMMUNITY NAME	COMMUNITY NUMBER
ETHRIDGE, CITY OF	470301
IRON CITY, CITY OF	470101
LAWRENCEBURG, CITY OF	475437
LORETTO, CITY OF	470306
ST. JOSEPH, CITY OF	470327
UNINCORPORATED AREAS	470354

DECEMBER 16, 1988

Federal Emergency Management Agency

NOTICE TO
FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

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FLOOD INSURANCE STUDY

LAWRENCE COUNTY, TENNESSEE
AND INCORPORATED AREAS

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the geographic area of Lawrence County, Tennessee, including the Cities of Ethridge, Lawrenceburg, Loretto, Iron City, and St. Joseph, Tennessee, and the Unincorporated Areas of Lawrence County, Tennessee (hereinafter referred to collectively as Lawrence County), and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates and assist the community in its efforts to promote sound floodplain management. Minimum floodplain management requirements for participation in the National Flood Insurance Program are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

This Flood Insurance Study revises and supersedes a previous Flood Insurance Rate Map for the City of Lawrenceburg, Tennessee (Reference 1). This information will be used by the community to update existing floodplain regulations as part of the regular phase of the National Flood Insurance Program. The information will also be used by local and regional planners to further promote sound land use and floodplain development.

In some states or communities, floodplain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the State (or other jurisdictional agency) will be able to explain them.

This Flood Insurance Study was prepared by compiling existing hydrologic and hydraulic technical and scientific data prepared by the Federal Emergency Management Agency (FEMA) for purposes of the National Flood Insurance Program and by other organizations for purposes other than the National Flood Insurance Program.

The data were identified as the best available at the time of compilation of this Flood Insurance Study and should depict the general conditions of the flooding sources with relative accuracy. FEMA performed a cursory review and accepted the data as valid for purposes of this Flood Insurance Study and the National Flood Insurance Program. However, if better information is known to exist or has been developed since the date of this report, the information should be immediately forwarded to the Natural and Technological Hazards Division, FEMA, Atlanta, Georgia, for consideration for revision of this study.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were obtained from a report titled "Floods on Shoal, Little Shoal, Beeler Fork Shoal, and Crowson Creeks and Tripp Town and Dry Branches in the Vicinity of Lawrenceburg, Tennessee" (Reference 2).

1.3 Coordination

On January 22, 1988, the results of this Flood Insurance Study were reviewed and accepted at a final coordination meeting attended by representatives of the community and FEMA.

2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the geographic area of Lawrence County, Tennessee. The area of study is shown on the Vicinity Map (Figure 1).

The areas studied by detailed methods were selected based on the extent and validity of available existing hydrologic and hydraulic data.

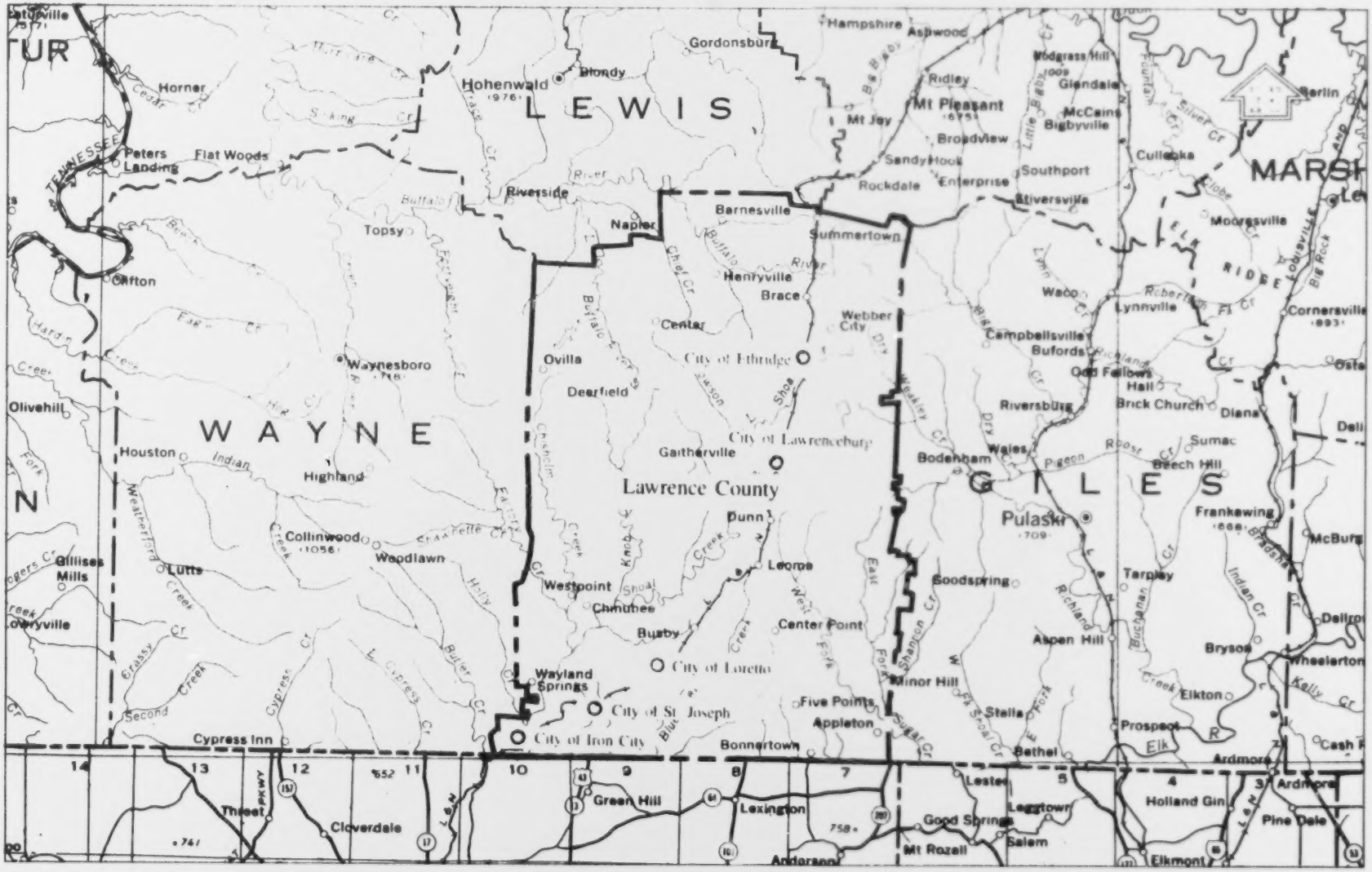
Flooding caused by overflow of Shoal Creek, Beeler Fork Shoal Creek, Little Shoal Creek, Crowson Creek, Tripp Town Branch, and Big Dry Branch was studied in detail.

Approximate methods of analysis were used to study all remaining areas having a potential flood hazard that did not have detailed scientific or technical data available.

2.2 Community Description

Lawrence County is in southern Tennessee along the Tennessee - Alabama border. Lawrence County is bordered on the west by the unincorporated areas of Wayne County, Tennessee; on the north by the unincorporated areas of Lewis County and Maury County, Tennessee; on the east by the unincorporated areas of Giles County, Tennessee; and on the south by the unincorporated areas of Lauderdale County, Alabama. Lawrence County is served by U.S. Routes 43 and 64, State Route 98, and the CSX railroad. The 1980 population of Lawrence County was reported to be 34,100 (Reference 3). Of this number, 10,184 reside in the City of Lawrenceburg.

Like most of this portion of Tennessee and northern Alabama, the climate of Lawrence County is temperate. The average annual temperature is about 60 degrees Fahrenheit. Annual precipitation averages about 51.67 inches, nearly all of which is rainfall (Reference 4).


LEWIS
WAYNE
Lawrence County
GILES
Hohenwald
Gordonsburg
Hampshire
Ashwood
Ridley
Mt Pleasant
Mt Jay
Broadview
Sandy Hook
Rockdale
Enterprise
Southport
Stiversville
McCains
Bigbyville
Glendale
Culleoka
Berlin
Horner
Peters Landing
Flat Woods
Riverside
Barnesville
Napier
Summertown
Topsy
Clifton
Henryville
Brace
Webber City
Center
City of Ethridge
Ovilla
Deerfield
Waynesboro
Olivehill
Houston
Highland
Gaitherville
City of Lawrenceburg
Collinwood
Woodlawn
Gillises Mills
Lutts
Westpoint
Chinuhee
Leoma
Punn
Center Point
Busby
City of Loretto
Wayland Springs
City of St Joseph
City of Iron City
Five Points
Appleton
Bonnertown
Cypress Inn
Green Hill
Lexington
Anderson
Mt Rozell
Good Springs
Salem
Lester
Bethel
Stella
Minor Hill
Aspen Hill
Goodspring
Pulaski
Riversburg
Wales
Bodenham
Campbellsville
Bufords
Odd Fellows Hall
Brick Church
Diana
Sumac
Beech Hill
Frankewing
McBurg
Tarpley
Dellrose
Brysons
Wheelerton
Elkton
Prospect
Ardmore
Holland Gin
Pine Dale
Elkmont
Legg town
Waco
Lynnville
Cornersville
Moorsville
Silver Cr
Big Rock
Elk Ridge
Shoal Creek
Richland Creek
Indian Cr
Kelly Cr
Elk R
Tennessee
Buffalo River
Swan Creek
Cypress Creek
Second Creek
Grassy Creek
Holly Creek
Weatherford Creek
Indian Creek
Shoal Creek
Richland Creek
Sugar Creek
Shannon Cr
Buchanan Cr
Wesley Cr
Big Buffalo Cr
Little Buffalo Cr
Fourmile Cr
Lick Cr
Lynn Cr
Roberts Fk Cr
Pigeon Roost Cr
Dry Cr
Shoal Cr
Fork Cr
Big Creek
Little Creek
Hurricane Creek
Silking Cr
Cedar Cr
Trace Cr
Rock Cr
Harris Creek
Hurricane Creek
Crockett Creek
Knob Creek
Shoal Creek
Blue Cr
Butler Cr
L Cypress Cr
Chaffelle Cr
Weatherford Creek
Rogers Cr
Cherry Creek
Cherry Cr
Hurricane Creek
Harris Creek
Fork
Creek
Cr
R
Fk
Hwy 43
Hwy 64
Hwy 412
Hwy 31
Hwy 17
Hwy 20
Natchez Trace Pkwy
Natchez Trace
Natchez Trace
Natchez Trace

2.3 Principal Flood Problems

Information about past flooding on Shoal Creek in the vicinity of the City of Lawrenceburg includes stream gage records taken just upstream of U.S. Route 48. Information and miscellaneous high-water marks for the floods of March 1902, December 1926, March 1927, March 1929, May 1933, February 1948, and March 1973 were obtained from newspaper articles and interviews with local residents, and high-water profiles were recorded by the Tennessee Valley Authority (TVA) following the floods of May 1937 and March 1955.

The largest flood of record in the vicinity of Lawrenceburg was that of March 1902. On Shoal Creek, upstream of Little Shoal Creek, the 1902 flood reached an elevation of 817.8 feet National Geodetic Vertical Datum of 1929 (NGVD) at U.S. Route 48. Downstream of Little Shoal Creek, one-half mile below the old Waynesboro Road bridge, the 1902 flood reached an elevation of 799.1 feet NGVD.

Since 1902, four floods of about equal magnitude have occurred on Shoal Creek in the vicinity of Lawrenceburg. Upstream of the confluence of Little Shoal Creek at U.S. Route 48, the May 1937 flood is the next largest flood, having crested about two feet below the 1902 flood and about one foot above the March 1973 flood. The March floods of 1973, 1955, and 1961 reached elevations of 816.0 feet NGVD, 815.8 feet NGVD, and 815.4 feet NGVD, respectively, at this station. The May 1937 flood was minor on Little Shoal Creek; consequently the crest on Shoal Creek below the junction with Little Shoal Creek was about two feet below the 1955 flood.

Downstream of the confluence of Little Shoal Creek, the March 1973 flood was generally about one foot higher than the March 1955 flood. At a gaging station about 400 feet downstream of the confluence of Little Shoal Creek, the March 1973 and 1955 floods reached elevations of 803.1 feet NGVD and 801.6 feet NGVD, respectively. The floods of December 1926, March 1927, March 1929, May 1933, and February 1948 were lesser floods and crested about three to eight feet below the March 1955 flood. No information concerning the March 1961 flood on Shoal Creek below Little Shoal Creek is available.

Information regarding past floods on Little Shoal Creek is limited to high-water marks from the March 1955 flood. That flood reached an elevation of 856.3 feet NGVD about 800 feet downstream of Buffalo Road and an elevation of 860.8 feet NGVD at Tripp Road. No information is available regarding past floods along other streams studied for this report.

2.4 Flood Protection Measures

David Crockett Dam, an earthfill structure near the mouth of Crawfish Creek, was determined by the U.S. Army Corps of Engineers (COE) to safely withstand the 500-year flood without overtopping.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that is expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for floodplain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10-, 2-, 1-, and 0.2-percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1-percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each riverine flooding source studied in detail affecting the community.

Computed flood discharges on Shoal Creek and Beeler Fork Shoal Creek are based on an analysis of records from stream gages in the vicinity of Lawrenceburg. Discharges on Little Shoal and Crowson Creeks and Tripp Town and Big Dry Branches are based on analyses of stream gage reco for similar watersheds in the region. All stream gage analyses followed standard procedures outlined in "Guidelines for Determining Flood Flow Frequency" (Reference 5), including the skew map and adjustments for historic flood information where available. The use of such regional relationships in the study is supported by the historic information along Shoal, Little Shoal, and Crowson Creeks.

Peak discharge-drainage area relationships for the 10-, 50-, 100-, and 500-year floods of each flooding source studied in detail in the community are shown in Table 1.

TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (SQ MILES)	PEAK DISCHARGE (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
SHOAL CREEK					
just downstream of confluence of Little Shoal Creek	55.41	11,500	19,800	24,200	36,600
at U.S. Route 43	27.0	7,320	13,830	17,530	28,950
BEELER FORK SHOAL CREEK					
at confluence of Shoal Creek	16.8	5,630	11,300	14,700	25,400
LITTLE SHOAL CREEK					
at mouth	26.8	6,160	10,100	12,500	16,900
CROWSON CREEK					
at mouth	18.7	4,700	7,750	9,530	12,900
TRIPP TOWN BRANCH					
at mouth	4.6	1,630	2,700	3,320	4,540
BIG DRY BRANCH					
at confluence of Tripp Town Branch	2.0	870	1,440	1,770	2,430

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of floods of the selected recurrence intervals.

The hydraulic characteristics of Shoal, Little Shoal, Beeler Fork Shoal, and Crowson Creeks, and Tripp Town and Big Dry Branches were analyzed using the HEC-2 step-backwater computer program (Reference 6) to provide estimates of the 10-, 50-, 100-, and 500-year flood elevations at selected stream cross-section locations. These cross sections were field surveyed at bridges and other locations to accurately define the floodplains along the studied stream reaches.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles and on the Flood Insurance Rate Map.

The computed elevations at the cross sections were plotted on a graph at the stream mile locations of the cross sections and joined by straight lines to create flood profiles.

Flood profiles were drawn showing the computed water-surface elevations for floods of the selected recurrence intervals. In cases where the 50- and 100-year flood elevations are close together, due to limitations of the profile scale, only the 100-year profile has been shown.

The hydraulic analyses for this study are based on the effects of unobstructed flow. The flood elevations shown on the profiles are thus considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

All elevations are referenced to the NGVD. Elevation reference marks used in this study are shown on the map and described in the exhibit labeled Elevation Reference Marks.

4.0 FLOODPLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages State and local governments to adopt sound floodplain management programs. Therefore, each Flood Insurance Study provides 100-year flood elevations and delineations of the 100- and 500-year floodplain boundaries and 100-year floodway to assist communities in developing floodplain management measures.

4.1 Floodplain Boundaries

To provide a national standard without regional discrimination, the 1-percent annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For each stream studied in detail, the 100- and 500-year floodplain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:24000 with a contour interval of 20 feet (Reference 7).

The 100- and 500-year floodplain boundaries are shown on the Flood Insurance Rate Map. On this map, the 100-year floodplain boundary corresponds to the boundary of the areas of special flood hazards (Zones A, AE, AH, AO, A99, V, and VE) and the 500-year floodplain boundary corresponds to the boundary of areas of moderate flood hazards. In cases where the 100- and 500-year floodplain boundaries are close together, only the 100-year floodplain boundary has been shown. Small areas within the floodplain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

For the streams studied by approximate methods, only the 100-year floodp' in boundary was delineated using the Flood Hazard Boundary Maps for Lawrence County and the Cities of Ethridge, Iron City, Loretto, and St. Joseph, Tennessee (References 8-12).

4.2 Floodways

Encroachment on floodplains, such as structures and fill, reduces the flood-carrying capacity, increases the flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of floodplain management involves balancing the economic gain from floodplain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 100-year floodplain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroach... so that the 100-year flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced. The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

The floodways presented in this study were computed for certain stream segments on the basis of equal conveyance reduction from each side of the floodplain. Floodway widths were computed at cross sections. Between cross sections, the floodway boundaries were interpolated. The results of the floodway computations are tabulated for selected cross sections and are shown in Table 2, Floodway Data. The computed floodways are shown on the Flood Insurance Rate Map. In cases where the floodway and the 100-year floodplain boundaries are either close together or collinear, only the floodway boundary is shown.

Along streams where floodways have not been computed, the community must ensure that the cumulative effect of development in the floodplain will not cause more than a 1.0-foot increase in the base flood elevations at any point within the community.

The area between the floodway and the 100-year floodplain boundaries is termed the floodway fringe. The floodway fringe encompasses the portion of the floodplain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to floodplain development are shown in Figure 2.

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
SHOAL CREEK								
A	54.07	200	3352	9.1	795.3	795.3	795.3	0.0
B	54.64	220	4410	6.9	798.8	798.8	799.8	1.0
C	54.97	240	4871	6.2	801.2	801.2	802.0	0.8
D	55.31	260	5611	5.4	803.4	803.4	804.0	0.6
E	55.65	270	5324	4.5	805.3	805.3	806.1	0.8
F	55.70	280	5591	4.3	806.1	806.1	807.0	0.9
G	55.75	280	5628	4.3	806.2	806.2	807.1	0.9
H	55.91	290	3902	6.2	806.6	806.6	807.6	1.0
I	56.21	300	3791	4.7	809.9	809.9	810.8	0.9
J	56.27	300	5352	3.3	811.0	811.0	812.0	1.0
K	56.58	130	2454	7.2	811.7	811.7	812.6	0.9
L	56.94	140	2476	7.1	814.7	814.7	815.7	1.0
M	57.24	145	2673	6.6	817.3	817.3	818.2	0.9
N	57.42	135	1663	10.5	818.8	818.8	819.8	1.0
O	57.48	130	2289	7.7	824.3	824.3	824.3	0.0
P	57.99	170	2830	6.1	826.5	826.5	827.0	0.5
Q	58.12	170	3394	5.0	827.6	827.6	828.2	0.6
R	58.33	190	2888	5.8	831.1	831.1	832.1	1.0
S	58.57	140	2484	6.7	832.3	832.3	833.2	0.9
T	58.81	140	2212	7.5	835.1	835.1	835.8	0.7
U	59.08	140	2136	7.7	837.9	837.9	838.9	1.0
V	59.49	140	2157	7.6	841.8	841.8	842.7	0.9
W	59.80	140	2261	7.2	845.0	845.0	846.0	1.0

[1]MILES ABOVE MOUTH

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAWRENCE COUNTY, TN AND INCORPORATED AREAS

FLOODWAY DATA

SHOAL CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
BEELER FORK SHOAL CREEK								
X	59.89	220	2491	5.9	846.1	846.1	846.9	0.8
Y	60.10	130	1851	7.9	851.8	851.8	852.2	0.4
Z	60.34	160	2880	5.0	857.0	857.0	857.3	0.3
AA	60.65	340	4944	2.9	857.9	857.9	858.8	0.9
AB	61.01	560	4991	2.9	859.4	859.4	860.4	1.0
AC	61.33	550	3830	3.7	861.4	861.4	862.2	0.8
AD	61.61	550	2844	4.9	866.2	866.2	867.2	1.0
LITTLE SHOAL CREEK								
A	0.04	250	2842	4.4	807.2	799.6[2]	800.6	1.0
B	0.34	130	1586	7.8	807.2	801.9[2]	802.8	0.9
C	0.82	150	2130	5.7	809.0	809.0	810.0	1.0
D	1.24	120	1411	8.5	817.2	817.2	818.2	1.0
E	1.60	110	1458	8.1	824.6	824.6	825.2	0.6
F	2.04	170	1790	5.0	831.9	831.9	832.9	1.0
G	2.47	180	1616	5.4	840.6	840.6	841.5	0.9
H	2.86	190	1833	4.7	847.7	847.7	848.7	1.0
I	3.23	175	1809	4.7	853.0	853.0	853.9	0.9
J	3.54	140	1483	5.6	857.8	857.8	858.8	1.0
K	3.69	150	1682	4.9	862.6	862.6	863.6	1.0
L	3.93	170	2359	3.5	864.0	864.0	865.0	1.0
M	4.32	170	1755	4.6	866.3	866.3	867.3	1.0

[1]MILES ABOVE MOUTH
[2]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM SHOAL CREEK

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAWRENCE COUNTY, TN AND INCORPORATED AREAS

FLOODWAY DATA

BEELER FORK SHOAL CREEK—LITTLE SHOAL CREEK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
CROWSON CREEK								
A	0.06	160	2456	3.9	803.8	798.7[2]	799.7	1.0
B	0.26	160	2030	4.7	804.6	799.7[2]	800.7	1.0
C	0.45	140	1776	5.3	806.1	802.3[2]	802.3	0.0
D	0.56	130	1613	5.9	806.1	802.5[2]	803.4	0.9
E	0.79	140	1221	7.7	806.1	805.5[2]	806.0	0.5
F	1.15	190	1747	5.4	811.3	811.3	811.4	0.1
G	1.48	320	3078	3.0	814.1	814.1	814.6	0.5
H	1.81	290	2244	4.1	816.3	816.3	817.2	0.9
I	2.06	100	1150	8.0	820.4	820.4	821.4	1.0
TRIPP TOWN BRANCH								
A	0.12	55	638	5.1	847.2	847.2	847.2	0.0
B	0.38	55	418	7.6	848.5	848.5	849.0	0.5
C	0.80	70	446	6.8	860.0	860.0	861.0	1.0
D	1.26	70	406	7.1	877.2	877.2	877.4	0.2
BIG DRY BRANCH								
E	1.56	85	366	4.5	886.4	886.4	887.1	0.7
F	1.77	100	693	2.2	896.5	896.5	897.4	0.9
G	1.95	80	471	3.1	906.0	906.0	906.9	0.9
H	2.18	80	364	3.5	915.2	915.2	916.2	1.0

[1]MILES ABOVE MOUTH
[2]ELEVATIONS WITHOUT CONSIDERING OVERFLOW EFFECT FROM SHOAL CREEK

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAWRENCE COUNTY, TN
AND INCORPORATED AREAS

FLOODWAY DATA

CROWSON CREEK—TRIPP TOWN BRANCH—BIG DRY BRANCH

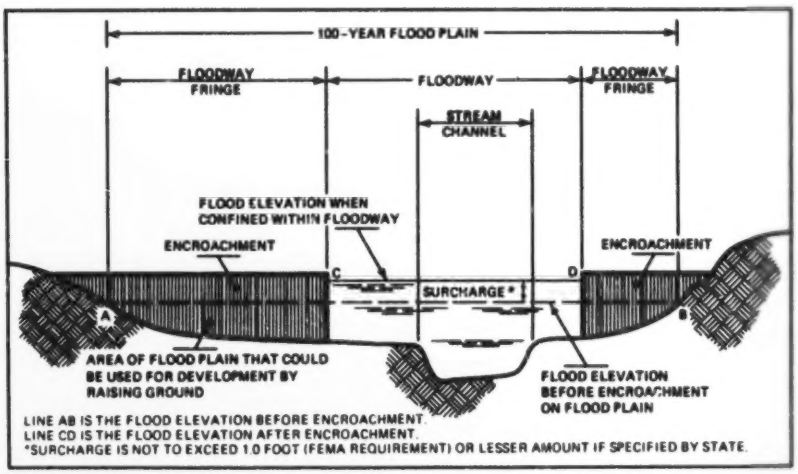

100-YEAR FLOOD PLAIN
FLOODWAY FRINGE
FLOODWAY
FLOODWAY FRINGE
STREAM CHANNEL
FLOOD ELEVATION WHEN CONFINED WITHIN FLOODWAY
ENCROACHMENT
ENCROACHMENT
C
D
SURCHARGE*
A
B
AREA OF FLOOD PLAIN THAT COULD BE USED FOR DEVELOPMENT BY RAISING GROUND
FLOOD ELEVATION BEFORE ENCROACHMENT ON FLOOD PLAIN
LINE AB IS THE FLOOD ELEVATION BEFORE ENCROACHMENT.
LINE CD IS THE FLOOD ELEVATION AFTER ENCROACHMENT.
*SURCHARGE IS NOT TO EXCEED 1.0 FOOT (FEMA REQUIREMENT) OR LESSER AMOUNT IF SPECIFIED BY STATE.

FIGURE 2 - Floodway Schematic

5.0 INSURANCE APPLICATION

For flood insurance rating purposes, flood insurance zone designations are assigned to a community based on the results of the engineering analyses. These zones are as follows:

Zone A

Zone A is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by approximate methods. Because detailed hydraulic analyses are not performed for such areas, no base flood elevations or depths are shown within this zone.

Zone AE

Zone AE is the flood insurance rate zone that corresponds to the 100-year floodplains that are determined in the Flood Insurance Study by detailed methods. Whole-foot base flood elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

Zone X

Zone X is the flood insurance rate zone that corresponds to areas outside the 100-year floodplain, areas of 100-year flooding where average depths are less than 1 foot, areas of 100-year flooding where the contributing drainage area is less than 1 square mile, and areas protected from the 100-year flood by levees. No base flood elevations or depths are shown within this zone.

6.0 FLOOD INSURANCE RATE MAP

The Flood Insurance Rate Map is designed for flood insurance and floodplain management applications.

For flood insurance applications, the map designates flood insurance rate zones as described in Section 5.0 and, in the 100-year floodplains that were studied by detailed methods, shows selected whole-foot base flood elevations or average depths. Insurance agents use the zones and base flood elevations in conjunction with information on structures and their contents to assign premium rates for flood insurance policies.

For floodplain management applications, the map shows by tints, screens, and symbols the 100- and 500-year floodplains, the floodways, and the locations of selected cross sections used in the hydraulic analyses and floodway computations.

Previously, separate Flood Hazard Boundary Maps and/or Flood Insurance Rate Maps were prepared for each flood-prone incorporated community and the unincorporated areas of the county. Historical data relating to the maps prepared for each community are presented in Table 3, Community Map History.

7.0 OTHER STUDIES

A Flood Insurance Study published for Lauderdale County, Alabama, is in agreement with this study (Reference 4).

This Flood Insurance Study supersedes the previously printed Flood Hazard Boundary Maps for Lawrence County and the Cities of Ethridge, Iron City, Loretto, and St. Joseph (References 8-12) and the previously printed Flood Insurance Rate Map for the City of Lawrenceburg (Reference 1).

8.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting the Natural and Technological Hazards Division, FEMA, 1371 Peachtree Street, NE., Suite 736, Atlanta, Georgia 30309.

9.0 REFERENCES AND BIBLIOGRAPHY

1. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Insurance Rate Map, City of Lawrenceburg, Lawrence County, Tennessee, March 1976.

2. Tennessee Valley Authority, Floods on Shoal, Little Shoal, Beeler Fork Shoal, and Crowson Creeks and Tripp Town and Dry Branches in the Vicinity of Lawrenceburg, Tennessee, September 1985.

3. U.S. Department of Commerce, Bureau of the Census, 1980 Census of Population, Number of Inhabitants, Tennessee, Washington, D.C., January 1982.

COMMUNITY NAME	INITIAL IDENTIFICATION	FLOOD HAZARD BOUNDARY MAP REVISIONS DATE	FIRM EFFECTIVE DATE	FIRM REVISIONS DATE
ETHRIDGE, CITY OF	JULY 2, 1976		DECEMBER 16, 1988	
IRON CITY, CITY OF	JUNE 14, 1974	JUNE 25, 1976	DECEMBER 16, 1988	
LAWRENCEBURG, CITY OF	MAY 25, 1973	JULY 1, 1974	MARCH 5, 1976	
LORETTO, CITY OF	JULY 2, 1976		DECEMBER 16, 1988	
ST. JOSEPH, CITY OF	JUNE 25, 1976		DECEMBER 16, 1988	
UNINCORPORATED AREAS	NOVEMBER 25, 1977		DECEMBER 16, 1988	

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAWRENCE COUNTY, TN AND INCORPORATED AREAS

COMMUNITY MAP HISTORY

4. Federal Emergency Management Agency, Federal Insurance Administration, Flood Insurance Study, Lauderdale County, Unincorporated Areas, Alabama, February 1981.

5. U.S. Department of the Interior, Geological Survey, Interagency Advisory Committee on Water Data, Office of Water Data Coordination, Hydrology Subcommittee, Bulletin No. 17B, Guidelines for Determining Flood Flow Frequency, September 1981, revised March 1982.

6. U.S. Army Corps of Engineers, Hydrologic Engineering Center, HEC-2 Water-Surface Profiles, Generalized Computer Program, Davis, California, April 1984.

7. U.S. Geological Survey, 7.5 Minute Series Topographic Maps, Scale 1:24000, Contour Interval 20 Feet: Lawrenceburg, Tennessee, 1951-1966, and Ethridge, Tennessee, 1951-1966.

8. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Lawrence County, Unincorporated Areas, Tennessee, November 1977.

9. ————, Federal Insurance Administration, Flood Hazard Boundary Map, City of Ethridge, Lawrence County, Tennessee, July 1977.

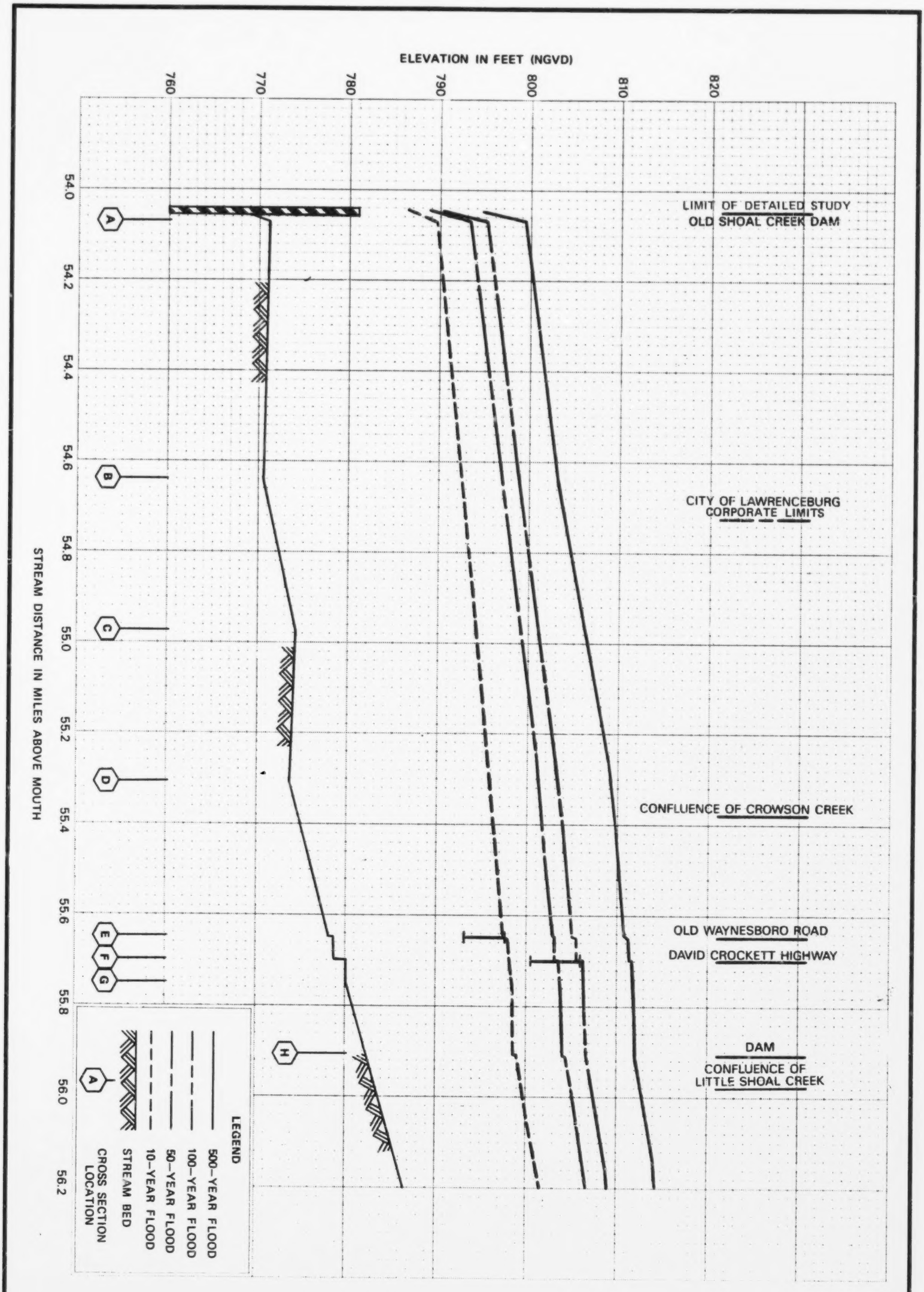
10. ————, Federal Insurance Administration, Flood Hazard Boundary Map, City of Iron City, Lawrence County, Tennessee, June 1976.

11. ————, Federal Insurance Administration, Flood Hazard Boundary Map, City of Loretto, Lawrence County, Tennessee, July 1976.

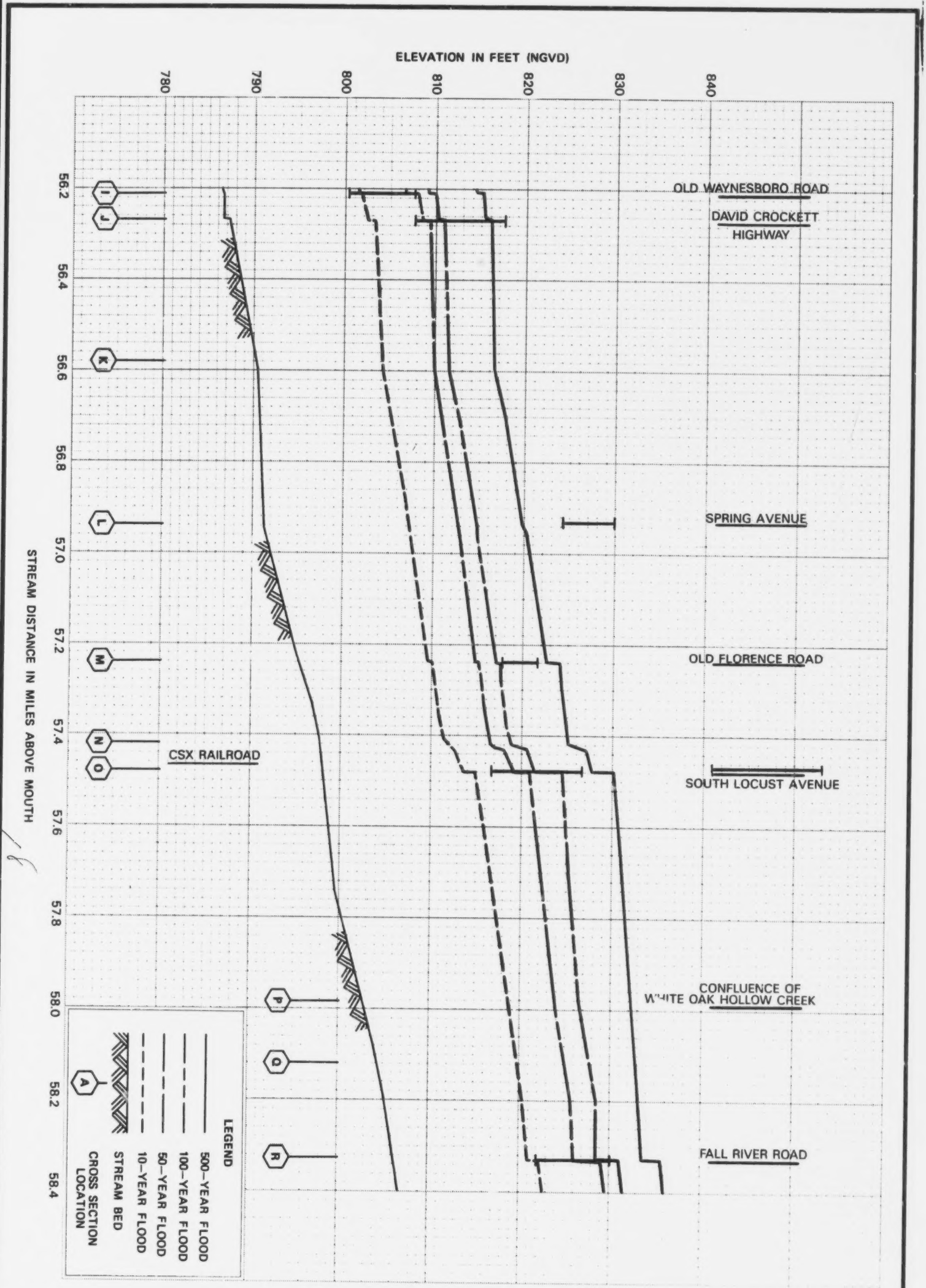
12. ————, Federal Insurance Administration, Flood Hazard Boundary Map, City of St. Joseph, Lawrence County, Tennessee, June 1976.

ELEVATION REFERENCE MARKS

REFERENCE MARK	FLOOD INSURANCE RATE MAP PANEL	ELEVATION (FEET NGVD)	DESCRIPTION OF LOCATION
1	0090	793.92	chiseled square painted "SC-23" located on top of east wingwall of Old Shoal Creek Dam
2	0090	802.06	chiseled and painted square on southeast corner of waste bin at sewage treatment plant at end of Ezell Road, northeast of confluence of Crowson Creek with Shoal Creek
3	0090	788.00	chiseled square on downstream side of dam on Shoal Creek located 500 feet downstream of confluence of Little Shoal Creek
4	0090	805.32	chiseled square painted "HL-70" on upstream east abutment of U.S. Route 64 bridge over Crowson Creek
5	0090	865.33	chiseled square painted "HL-80" on south wingwall of David Crockett Dam spillway
6	0090	860.96	standard TVA bronze cap stamped "HL-79 1985" set in southeast corner of Buffalo Road bridge over Little Shoal Creek
7	0090	821.04	bronze cap in curb on northeast corner of U.S. Route 43 bridge over Shoal Creek
8	0090	851.32	bronze cap on downstream side of U.S. Route 64 bridge over Tripp Town Branch
9	0090	840.84	chiseled square in curb on southwest corner of Quail Drive low water bridge over Beeler Fork Shoal Creek
10	0090	857.02	painted chiseled square on west upstream headwall of U.S. Route 64 bridge over Beeler Fork Shoal Creek



01P	FEDERAL EMERGENCY MANAGEMENT AGENCY LAWRENCE COUNTY, TN AND INCORPORATED AREAS	FLOOD PROFILES SHOAL CREEK



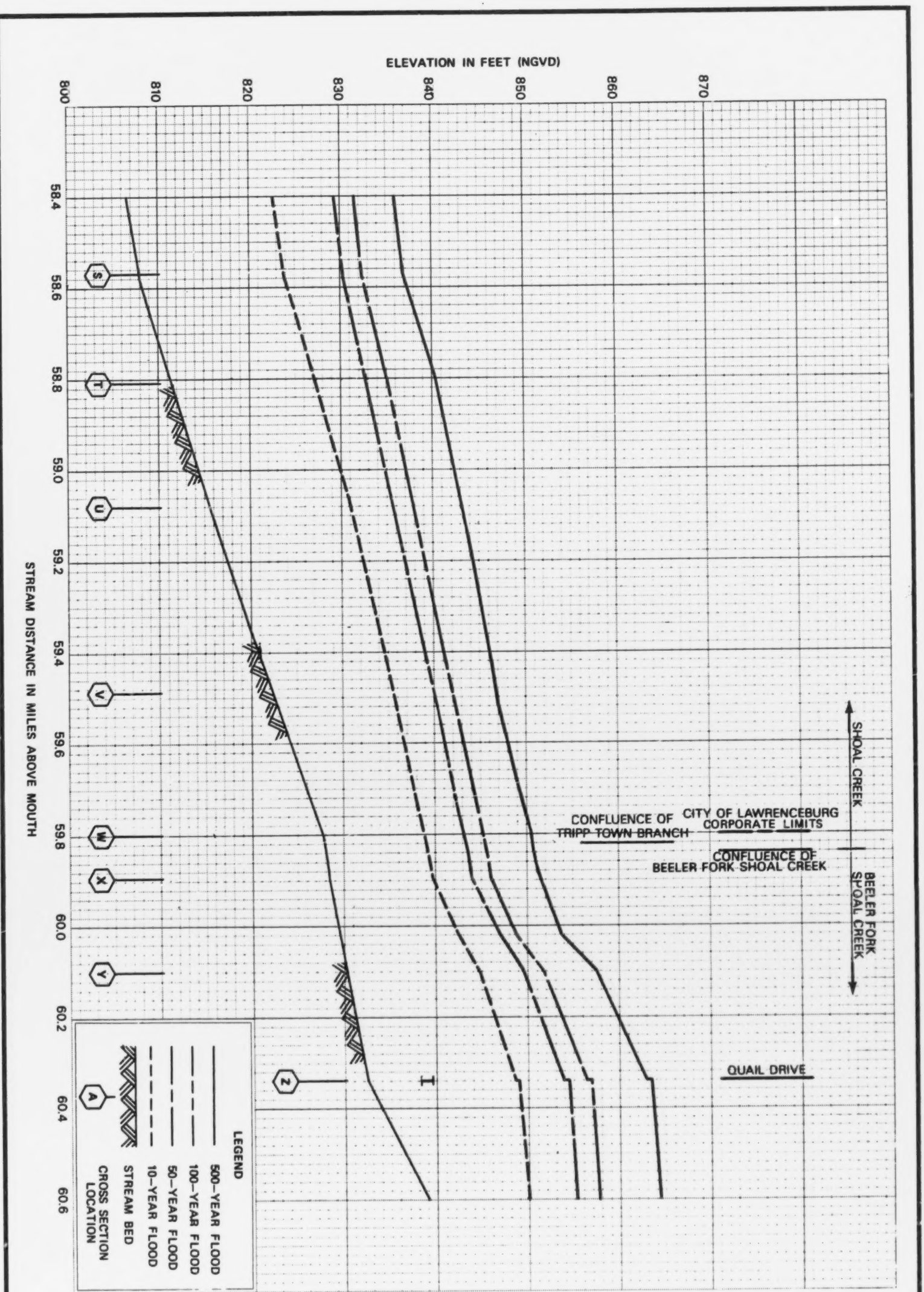
02P

FEDERAL EMERGENCY MANAGEMENT AGENCY

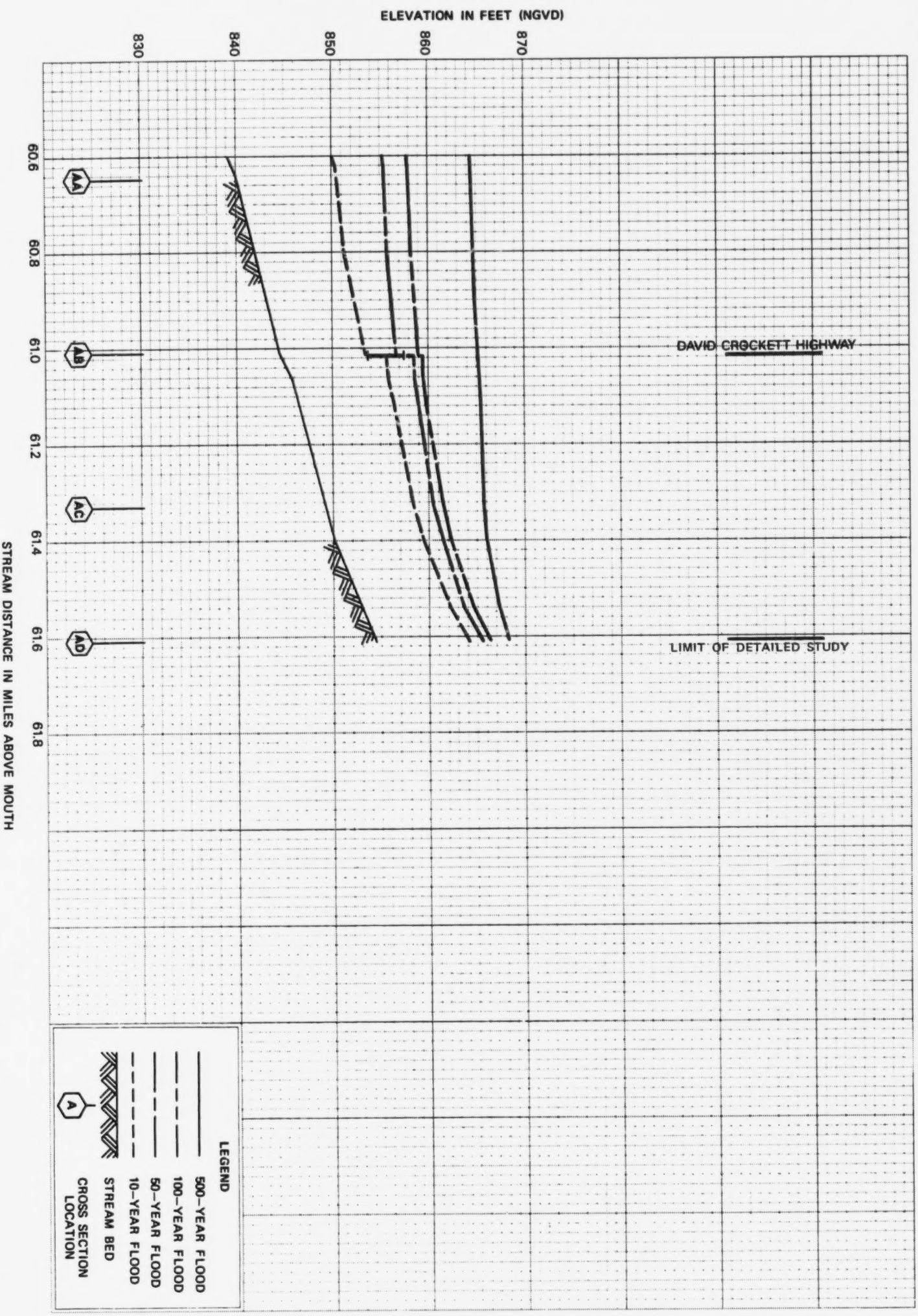
LAWRENCE COUNTY, TN AND INCORPORATED AREAS

FLOOD PROFILES

SHOAL CREEK

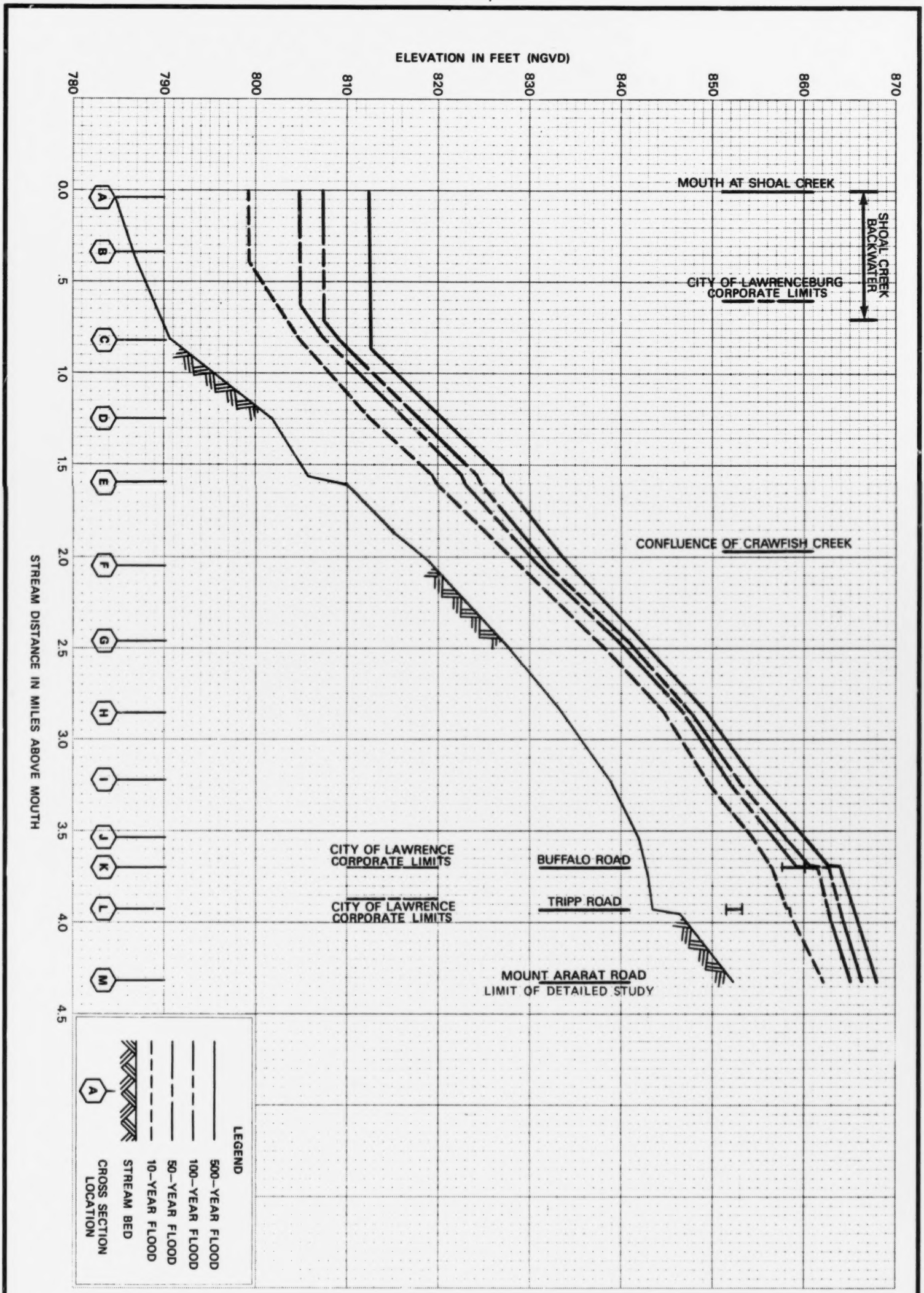


03P	FEDERAL EMERGENCY MANAGEMENT AGENCY LAWRENCE COUNTY, TN AND INCORPORATED AREAS	FLOOD PROFILES SHOAL CREEK-BEELER FORK SHOAL CREEK



20

04P	FEDERAL EMERGENCY MANAGEMENT AGENCY LAWRENCE COUNTY, TN AND INCORPORATED AREAS	FLOOD PROFILES BEELER FORK SHOAL CREEK



21

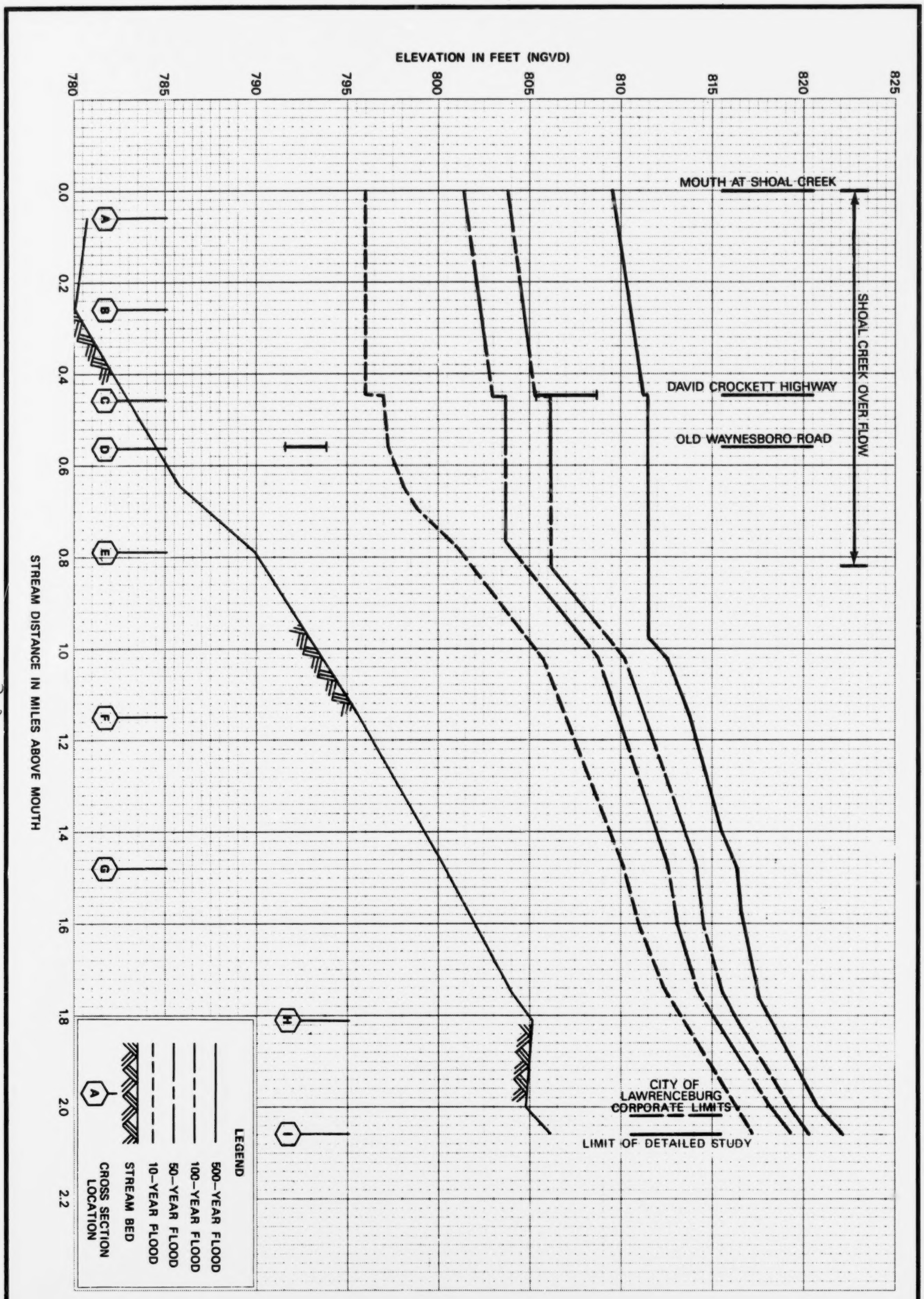
05P

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAWRENCE COUNTY, TN AND INCORPORATED AREAS

FLOOD PROFILES

LITTLE SHOAL CREEK



22

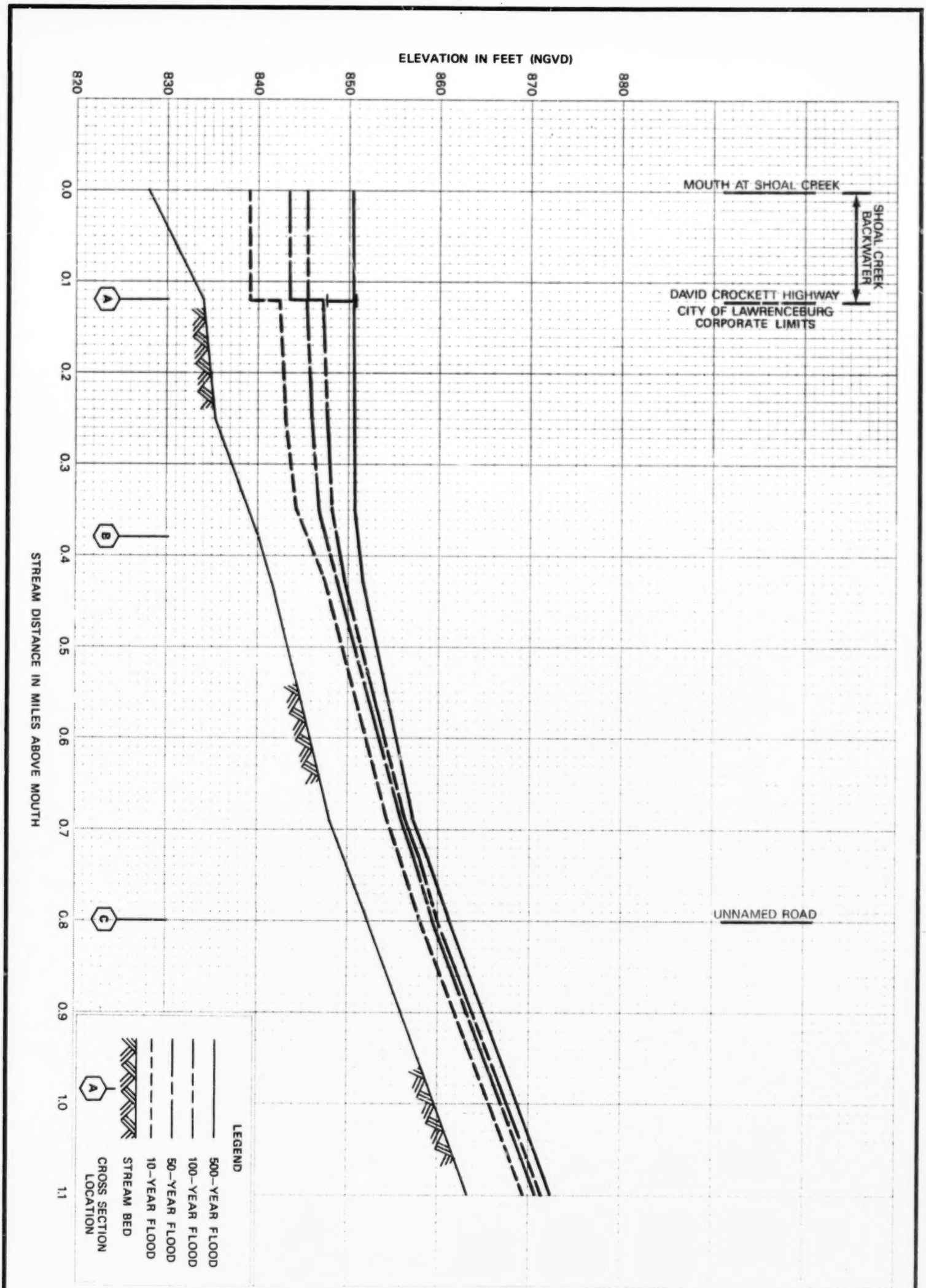
06P

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAWRENCE COUNTY, TN AND INCORPORATED AREAS

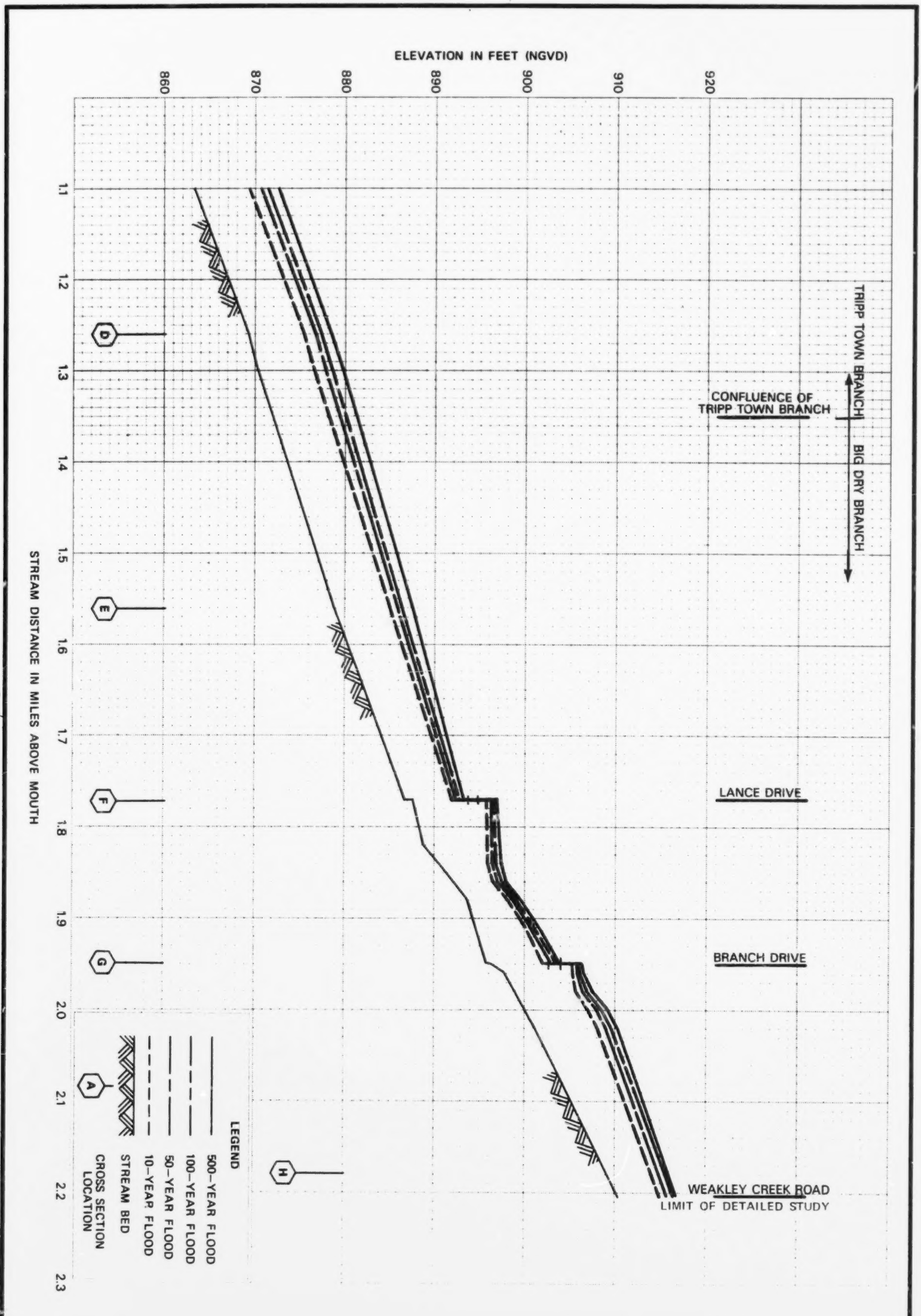
FLOOD PROFILES

CROWSON CREEK



23

07P	FEDERAL EMERGENCY MANAGEMENT AGENCY LAWRENCE COUNTY, TN AND INCORPORATED AREAS	FLOOD PROFILES TRIPP TOWN BRANCH



08P

FEDERAL EMERGENCY MANAGEMENT AGENCY

LAWRENCE COUNTY, TN
AND INCORPORATED AREAS

FLOOD PROFILES

TRIPP TOWN BRANCH-BIG DRY BRANCH